

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

Claims 1-45 (previously canceled)

Claim 46. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding pokeweed antiviral protein; and
- (ii) an inducible promoter which induces expression of said pokeweed antiviral protein in said specific cells upon exposing of said plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of said pokeweed antiviral protein induces cell death in said specific cells of said plant.

Claim 47. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:3 encoding a mature PAP-S protein or a nucleic acid molecule that hybridizes binds to SEQ ID NO:3, in 0.5 M NaHPO₄, 7% sodium dodecyl sulfate (SDS), 1mM EDTA at 65° C, and washing in 0.1X SSC/0.1% SDS at 68 ° C, and encodes a mature PAP-S protein ~~capable of inducing that~~ induces cell death; and
- (ii) an inducible promoter which induces expression of said mature PAP-S protein in said specific cells upon exposure of said plant to said pathogen or said chemical or which is cell type specific

and induced during natural plant development allowing said natural development of said plant,

wherein expression of said mature PAP-S protein induces cell death in said specific cells of said plant.

Claim 48. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or said chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:5 encoding a mature PAP-S α protein or a nucleic acid molecule that ~~binds~~ hybridizes to SEQ ID NO:5, in 0.5 M NaHPO₄, 7% sodium dodecyl sulfate (SDS), 1mM EDTA at 65° C, and washing in 0.1X SSC/0.1% SDS at 68 ° C, and encodes a mature PAP-S α protein ~~capable of inducing that induces~~ cell death; and
- (ii) an inducible promoter which induces expression of said mature PAP-S α protein in said specific cells upon exposure of said plant to said pathogen or said chemical or which is cell type ~~specific and induced during natural plant development allowing said natural development of said plant,~~

wherein expression of said PAP-S α protein induces cell death in said specific cells of said plant.

Claim 49. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:7 encoding a mature PAP-S β protein or a nucleic acid molecule that ~~binds~~ hybridizes to SEQ ID NO:7, in 0.5 M NaHPO₄, 7% sodium dodecyl sulfate (SDS), 1mM EDTA at 65° C, and washing in 0.1X SSC/0.1% SDS at 68 ° C, and encodes a mature PAP-S β protein ~~capable of inducing that induces~~ cell death;
and
- (ii) an inducible promoter which induces expression of said mature PAP-S β protein in said specific cells upon exposure of said

plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of said PAP- S β protein induces cell death in said specific cells of said plant.

Claim 50. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding a precursor PAP molecule capable of inducing cell death or a precursor PAP molecule ~~capable of inducing that induces~~ cell death wherein the C-terminal region has been deleted; and
- (ii) an inducible promoter which induces expression of said mature precursor PAP molecule in said specific cells upon exposure of said plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of precursor PAP molecule induces cell death in said specific cells of said plant.

Claim 51. (currently amended) The method of inducing cell death in specific cells of a plant according to Claim 50, wherein ~~said nucleic acid molecule encodes a~~ the precursor PAP molecule is Pro-PAP-S protein.

Claim 52. (previously presented) The method of inducing cell death in specific cells of a plant according to Claim 51, wherein the Pro-Pap-S has the amino acid sequence depicted in SEQ. ID. No.: 2.

Claim 53. (currently amended) The method of inducing cell death in specific cells of a plant according to Claim 51, wherein said nucleic acid molecule encoding the Pro-Pap-S protein is that depicted in SEQ ID NO:1 or a sequence that ~~binds~~ hybridizes to SEQ ID NO:1, in 0.5 M NaHPO₄, 7% sodium dodecyl sulfate (SDS), 1mM EDTA at 65° C, and washing in

0.1X SSC/0.1% SDS at 68 ° C, and encodes a protein capable of inducing that induces cell death .

Claim 54. (previously presented) The method of inducing a cell death in specific cells of a plant according to any one of Claims 47, 48, 49, 50, 51, 52 or 53 wherein said inducible promoter is induced in pollen cells, anther cells, tapetum cells, ovule cells, cells at a nematode feeding site, cells at an abscission zone, sepal cells, carpel cells, stamen cells, trichome cells or seed cells.

Claim 55. (previously presented) A plant comprising specific cells in which a cell death effect is induced by the method of any one of Claims 46, 47, 48, 49, 50, 51, 52 or 53.

Claim 56 (canceled)

Claim 57. (previously presented) The method of Claim 46, wherein said inducible promoter is induced in pollen cells, anther cells, tapetum cells, ovule cells, cells at a nematode feeding site, cells at an abscission zone, sepal cells, carpel cells, stamen cells, trichome cells or seed cells.

Claim 58. (currently amended) The method of Claim 46, wherein ~~said coding sequence encodes a~~ the pokeweed antiviral protein is mature pokeweed antiviral protein, a mature PAP-S protein, a pro-PAP-S protein, a PAP-S β protein, or PAP-S α protein.

Claim 59. (currently amended) A method of inducing cell death in specific cells of a plant comprising:

- a) transforming plant cells with a chimaeric gene comprising
 - (i) a nucleic acid molecule encoding a mature pokeweed antiviral protein; and
 - (ii) an inducible promoter which induces expression of the mature pokeweed antiviral protein in said specific cells upon exposing said plant to a pathogen or a chemical which is cell type specific and induced during natural plant development allowing said natural development of said plant,
- b) regenerating a plant from said transformed cells, and

c) exposing said regenerated plant to a pathogen or a chemical or allowing natural development of said regenerated plant,
wherein expression of said mature pokeweed antiviral protein induces cell death in said specific cells of said regenerated plant.

Claim 60. (currently amended) A method of inducing ~~a necrotic effect~~ cell death in specific cells of a plant comprising:

a) transforming plant cells with a chimaeric gene comprising

- (i) a nucleic acid molecule encoding a precursor PAP molecule ~~capable of inducing that induces~~ cell death or a precursor PAP molecule ~~capable of inducing that induces~~ cell death wherein the C-terminal region has been deleted; and
- (ii) an inducible promoter which induces expression of mature pokeweed antiviral protein in said specific cells upon exposing of said plant to a pathogen or a chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

b) regenerating a plant from said transformed cells, and

c) exposing said regenerated plant to a pathogen or a chemical or allowing natural development of said regenerated plant,
wherein expression of mature pokeweed antiviral protein induces cell death in said specific cells of said regenerated plant.

Claim 61. (currently amended) The method of any of claims 46-53 or 57-60 wherein the ~~inducible~~ pathogen is *Globodera* spp., *Heterodera* spp., *Meloidogyne* spp., or a virus.

Claim 62. (currently amended) The method of any of claims 46-53 or 57-60 wherein the inducible promoter is nematode inducible ~~by nematode feeding~~.

Claim 63. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to said pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

(i) a nucleic acid molecule encoding the mature PAP-S protein of SEQ ID NO:4.; and

- (ii) an inducible promoter which induces expression of the mature PAP-S protein in said specific cells upon exposing of said plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of the mature PAP-S protein induces cell death in said specific cells of said plant.

Claim 64. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic molecule encoding the PAP-S α protein having the amino acid sequence depicted in SEQ ID NO:6; and
- (ii) an inducible promoter which induces expression of the PAP-S α protein in said specific cells upon exposing said plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of said PAP-S α protein induces cell death in said specific cells of said plant.

Claim 65. (currently amended) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding the mature PAP-S β protein of SEQ ID NO:8; and
- (ii) an inducible promoter which induces expression of the mature PAP-S β protein in said specific cells upon exposing of said plant to said pathogen or said chemical or which is cell type specific and induced during natural plant development ~~allowing said natural development of said plant,~~

wherein expression of said PAP-S β protein induces cell death in said specific cells of said plant.

Claim 66. (new) A molecule comprising (i) a nucleic acid molecule encoding a mature PAP-S α protein; and (ii) an inducible promoter which induces expression of said mature PAP-S α protein in cells of a plant upon exposing said plant to a pathogen or a chemical or which is cell type specific and induced during natural plant development.

Claim 67. (new) A molecule comprising (i) a nucleic acid molecule encoding a mature PAP-S β protein; and (ii) an inducible promoter which induces expression of said mature PAP-S β protein in cells of a plant upon exposing said plant to a pathogen or a chemical or which is cell type specific and induced during natural plant development.